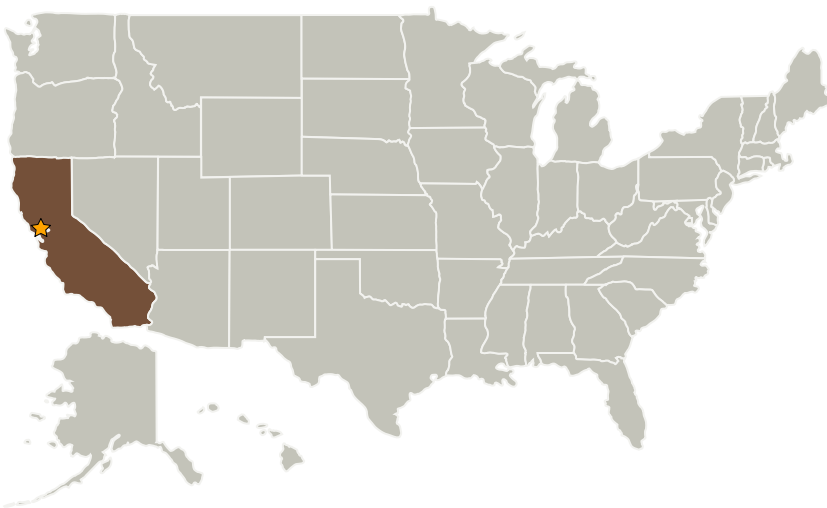## Project Introduction

NanoSat mission users submit trajectory and critical maneuver plan information. Users further specify desired communication pass times along with minimum durations and start time flexibilities, as well as the services required (uplink, downlink or both). Conflict between missions will occur. Open Scheduling and Planning Interface for Exploration (OpenSPIFe) suggests compromises that attempt to achieve as much of the desired requests as possible using its constraint reasoning engine. Using the rich-client interface the user chooses which suggested compromises to act on. An integrated linear programming solver is then used to find the best solution given the selected compromises, with the results presented to the user. Deliverables: Enhanced OpenSPIFe Software; Exploration Mission 1 (EM-1) Scheduling Demonstration

Anticipated Benefits

Critical event deconfliction for interplanetary nanosat missions.

Primary U.S. Work Locations and Key Partners

Critical Event Deconfliction for Interplanetary NanoSat Missions

Table of Contents

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Ames Research Center (ARC)

Responsible Program:

Center Innovation Fund: ARC CIF

Organizations Performing Work	Role	Type	Location
⭐Ames Research Center(ARC)	Lead Organization	NASA Center	Moffett Field, California

TechPort

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For more information and an accessible alternative, please visit:
https://techport.nasa.gov/view/34931

Page 1

Primary U.S. Work Locations
California

Project Website:

https://www.nasa.gov/directorates/spacetech/home/index.html

Project Management

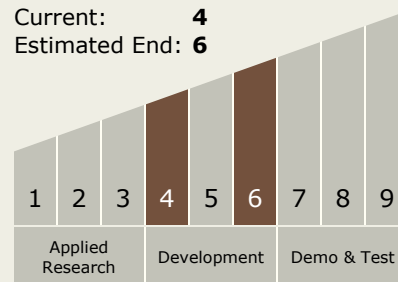**Program Director:**

Michael R Lapointe

Program Manager:

Harry Partridge

Principal Investigator:

Matthew V D'ortenzio

Technology Maturity (TRL)

Start: **4**
Current: **4**
Estimated End: **6**

1	2	3	4	5	6	7	8	9
Applied Research			Development			Demo & Test		

Technology Areas

Primary:

- TX10 Autonomous Systems
  - TX10.2 Reasoning and Acting
    - TX10.2.2 Activity and Resource Planning and Scheduling